

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 06-141308

(43)Date of publication of application : 20.05.1994

(51)Int. Cl.

H04N 7/14

H04M 1/05

H04M 11/00

H04N 5/64

H04R 1/10

(21)Application number : 04-286469

(71)Applicant :

HITACHI LTD

(22)Date of filing : 23.10.1992

(72)Inventor :

UMEZAWA KOICHI

EBIHARA TORU

NISHIYAMA TAKANORI

HOSHINO TAKASHI

KURIYAMA HIROYUKI

ISHIDA KIYOSHI

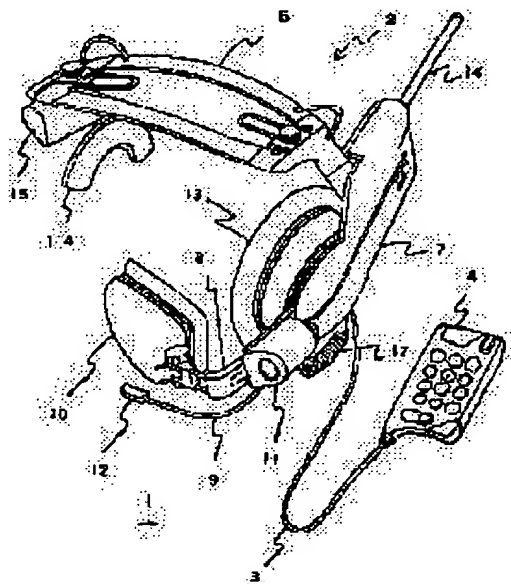
ISHINABE IWAO

(54) PORTABLE VIDEO TELEPHONE SET

(57)Abstract:

PURPOSE: To provide a portable video telephone set acquiring required information (voice and video information) and sending a status of a user in real time by the video and voice information while the user is occupied in a job requiring his both hands.

CONSTITUTION: A head set 5 is provided with a speaker section 7, a display section 10, a camera section 11, a microphone section 12 and a communication equipment 6. A cord 3 is connected to the head set 5 and an operation section 4 is connected to the cord 3. The speaker section 7 is fitted to one ear of the user and the display section 10 corresponds to one eye of the user. The display device 10, the camera section 11 and the microphone section 12 are fitted via turnable arms 8, 9 fitted to the speaker section 7. A battery section 15 is fitted to the head set 5 at the ear for which no speaker section 7 is fitted.



LEGAL STATUS

[Date of request for examination]	02.06.1997
[Date of sending the examiner's decision of rejection]	25.01.2000
[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]	
[Date of final disposal for application]	
[Patent number]	
[Date of registration]	
[Number of appeal against examiner's decision of rejection]	
[Date of requesting appeal against examiner's decision of rejection]	
[Date of extinction of right]	

Copyright (C); 1998,2003 Japan Patent Office

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] The carried type TV phone machine which performs transmission and reception of the voice and the image which are characterized by providing the following. The voice input means for inputting a user's voice. The image pck-up means for picturizing the image around a user or the aforementioned user. The transmitting means for transmitting the voice inputted by the aforementioned voice input means, or the image picturized by the aforementioned image pck-up means. The receiving means for receiving voice and an image, and the voice output means for outputting the voice received by the aforementioned receiving means, The image output means for outputting the image received by the aforementioned receiving means, The wearing means for making a user's body equip, while having an operation means for giving directions of transmission and reception at least and connecting and supporting a part of the aforementioned voice input means, an image pck-up means, a transmitting means, a receiving means, voice output means, image output means, and operation means [at least] further.

[Claim 2] It is the carried type TV phone machine characterized by having the head applied part which has the gestalt with which a user's head is equipped with the aforementioned wearing means at least in a claim 1.

[Claim 3] It is the carried type TV phone machine characterized by having the lumbar part applied part which has the gestalt with which a user's lumbar part is further equipped with the aforementioned wearing means in a claim 2.

[Claim 4] The carried type TV phone machine characterized by having the aforementioned voice input means, the aforementioned image pck-up means, the aforementioned voice output means, and the aforementioned image output means, and equipping the aforementioned lumbar part applied part with the aforementioned transmitting means and the aforementioned receiving means at least at least in a claim 3 at the aforementioned head applied part.

[Claim 5] It is the carried type TV phone machine characterized by having the connecting means for connecting the aforementioned operation means and the aforementioned wearing means further in claims 2, 3, or 4, and equipping the aforementioned operation means with the transceiver key for directing transmission or reception, the end key for directing the end of transmission or reception, and a ten key.

[Claim 6] It is the carried type TV phone machine which the aforementioned voice output means is attached in one ear of a user by the aforementioned head wearing section, and the aforementioned image output means corresponds to one eye of the aforementioned user in a claim 4, and is characterized by to be attached the aforementioned image output means, the aforementioned voice-input means, and the aforementioned image pck-up means through the arm which is attached in the aforementioned voice output means, and which can be rotated.

[Claim 7] It is the carried type TV phone machine characterized by being attached in the position where, as for the aforementioned image pck-up means, the optical axis is concurrent with the optical axis of the aforementioned image output means in a claim 4 free [attachment and detachment in the aforementioned head wearing section].

[Claim 8] The carried type TV phone machine characterized by having the aforementioned transmitting means and a receiving means behind the aforementioned voice output means in a claim 4.

[Claim 9] It is the carried type TV phone machine characterized by having the dc-battery section for changing the aforementioned carried type TV phone machine into an usable state further in a claim 4, and for the aforementioned voice output meanses being wrap headphone about user's one of the two's ear, and equipping with the aforementioned dc-battery section the aforementioned head anchoring means by the side of the ear which is not covered by the aforementioned headphone.

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates to a carried type TV phone machine, especially, is equipped with the anchoring means to a user's body, and relates to the carried type TV phone machine which can be used while a user does other work.

[0002]

[Description of the Prior Art] Conventionally, as a carried type TV phone machine, there is technology shown in JP,3-123152,A, for example. In this technology, the telephone book soma equipped with the earphone and the push button and the cover section equipped with the flat panel type display were prepared, it is small and telephone with the pocket possibility of and television which moreover has various functions nature is proposed.

[0003]

[Problem(s) to be Solved by the Invention] According to the above-mentioned Prior art, at the time of carrying, the cover section is closed, it can carry and, in addition to a TV phone function, television inspection can be performed by conveyance and having an antenna at the time of use.

[0004] However, in this conventional example, at the time of carrying, the cover section is closed, and conveyance and when carrying and using it in a going-out place or the outdoors, you have to open and use the cover section one by one. Moreover, the above-mentioned conventional example had to place the main part of telephone on the table, the knee, etc. in use on the assumption that the use in a table. Furthermore, at the time of carrying, you have to convey and carry by hand (one hand or both hands). For this reason, a TV phone machine cannot be conveyed and carried, performing other handicrafts which must use both hands. Moreover, it cannot be used, walking.

[0005] this invention aims at offering the carried type TV phone machine which can accomplish in order to solve the above-mentioned technical problem, can receive required information (information with voice and an image) while a user works, and can communicate the situation around a user or the image of a user's face, and voice on real time.

[0006]

[Means for Solving the Problem] In this invention, in order to attain the aforementioned purpose, in the TV phone machine equipped with the loudspeaker section, the display section, the camera section, the microphone section, and the communication device, it has a wearing means to the body and things are made.

[0007] Furthermore, it has head applied parts, such as a head set and a helmet, as a wearing means to the body, and the loudspeaker section, the display section, the camera section, the microphone section, and a communication device can be attached in this head applied part.

[0008] Or the wearing means to the body can consist of a head applied part and an applied part to other bodies, such as a waist belt and a shoulder belt, can equip a head applied part with the loudspeaker section, the display section, the camera section, and the microphone section, and can also equip other applied parts with a communication device.

[0009] Furthermore, it can connect with the aforementioned applied part through connecting means, such as a connection code and infrared radiation, and the aforementioned applied part can also prepare the control unit equipped with the ten key, transmission/receiving key, and the end key in another object. The loudspeaker section is attached in one ear in a head applied part, and the display section, the microphone section, and the camera section corresponding to one eye can also be attached in the loudspeaker section free [rotation] through an arm. Furthermore, the camera section can also be attached in the position where the optical axis of the camera section is concurrent with the optical axis of the display section free [attachment and detachment]. Moreover, a communication device can be prepared behind the loudspeaker section and the bar TERI section can also be prepared in the loudspeaker section and the applied part by the side of the ear of another side which counters.

[0010]

[Function] According to this invention, it is not necessary to have a carried type TV phone machine in a hand by having a wearing means (body anchoring means) to the bodies, such as a head set, a helmet or a shoulder belt, and a waist belt. Moreover, body anchoring meanses are head applied parts (head maintenance means), such as a head set and a helmet, and since the loudspeaker section, the display section, the camera section, the microphone section, and a communication device are attached in this head maintenance means, both hands can be used freely.

[0011] In this case, the weight burden of the equipment concerning a head is mitigable by attaching a communication device in the body with a waist belt or a shoulder belt. Furthermore, it can be operated by preparing the control unit connected through connecting means, such as a connection code and infrared radiation, in another object, equipped with a head maintenance means.

[0012] Moreover, a user can adjust the position of the above-mentioned display section, the microphone section, and the camera section to the optimal position by attaching the loudspeaker section in one ear with a head maintenance means, and attaching the display section, the microphone section, and the camera section corresponding to one eye in the loudspeaker section free [rotation] through an arm. Moreover, a user can know the information on personal appearance by opening one ear and eye as mentioned above.

[0013] Furthermore, a user's eye line and the optical axis of the camera section can be made in agreement by preparing the optical axis of the camera section in the position which is concurrent with the optical axis of the display section. Moreover, a photograph can be taken, without making a user take an unnatural posture, if attachment and detachment of the camera section are enabled.

[0014] Moreover, weight balance at the time of wearing of a head maintenance means can be made good by preparing a communication device behind the loudspeaker section and preparing in the aforementioned maintenance means by the side of the ear with which the dc-battery section is not attached in the loudspeaker section.

[0015]

[Example] Hereafter, the example concerning this invention is explained in detail, referring to drawing 1 - drawing 15 .

[0016] Drawing 1 - drawing 13 are drawings for explaining one example of the carried type TV phone machine concerning this invention.

[0017] Drawing 1 is the perspective diagram showing one example of the carried type TV phone machine concerning this invention.

[0018] This carried type TV phone machine (a sign 1 shows in the gross) consists of a main part 2 attached in a user's head, and a control unit 4 connected to a main part 2 through a code 3.

[0019] A main part 2 is held at a user's head by the head set 5 formed by carrying out a bend for the material equipped with moderate elasticity. The loudspeaker section 7 which equipped the interior with a communication device 6 (it illustrates in drawing 4) and various kinds of substrates is attached in one side (right-hand side) of a head set 5 free [a head set 5 and rotation] .

[0020] It is attached free [rotation of the display arm 8 and the microphone arm 9] ahead of the loudspeaker section 7 (drawing top left-hand side). A display 10 and the camera section 11 are attached in this display arm 8, and the microphone section 12 is attached at the nose of cam of the microphone arm 9.

[0021] Furthermore, the ear putt 13 is formed inside the loudspeaker section 7. Here, the camera section 11 is attached in the display arm 8 free [attachment and detachment], and is connected to it through the loudspeaker section 7 and the connection code 17. Moreover, the loudspeaker section 7 has formed the antenna 14 in the tooth back while it juts out and forms a case in up back and forms a communication device 6 in the interior. On the other hand, the head putt 114 and the dc-battery section 15 are formed in another side (left-hand side) of a head set 5.

[0022] Drawing 2 is the busy condition view showing the state where the above-mentioned main part 2 was attached in a user's head. In this drawing, by the ear pad 13 and the head putt 114 which are prepared in a head set 5 and its both sides, it can equip with a main part 2 so that a user's head may be fitted. Under the present circumstances, a screw 16 can adjust the breadth (this is set to L1) of a head set 5 (in drawing 8 , it explains for details). Furthermore, the loudspeaker section 7 is attached in the arrow X1 bidirectional direction free [rotation] through hinge region 40a (it illustrates in drawing 10) prepared in the end of a head set 5. Moreover, in this example, by distributing a function part respectively and arranging it the both sides of a head set 5, and before and after the loudspeaker section 7, it considers so that the weight balance at the time of head wearing of a user may be improved.

[0023] Next, drawing 3 - drawing 7 explain the mechanism of the loudspeaker section 7 of operation. The A-A' cross section of the loudspeaker section 7 which shows drawing 3 in the right lateral view (drawing which looked at the main part 2 from the right-hand side of drawing 1) of a main part 2, and shows drawing 4 to drawing 3 , and drawing 5 are [the part drawing (a view is a plan and b view is a side elevation) of the display arm 8 and drawing 7 of the part drawing (a view is front view and b view is a side elevation) of the microphone arm 9 and drawing 6] the external views (for a plan and b view, a

[0024] In drawing 3 , the microphone arm 9 and the display arm 8 are formed free [rotation] focusing on the axis of rotation P prepared in the loudspeaker section 7. the rotation range of the microphone arm 9 (this is set to X2) is made into about 115 degrees from the position of 45 facing down to the upper part, and level [in the rotation range of the display arm 8 (this is set to X3)] in this example, -- it may be about 110 degrees from a lower part to up back a little

[0025] This detailed structure is explained in drawing 4 - drawing 6 .

[0026] In drawing 5 , the microphone arm 9 is formed with an elastic curve pipe, the microphone section 12 is formed in an end, and the rotation ring 18 is formed in the other end. Here, connection with the microphone section 12 and the loudspeaker section 7 is performed by letting the inside of the curve pipe of the microphone arm 9 pass for a connection code.

[0027] In drawing 6 , the display arm 8 consists of the rotation ring section 19 and attachment pipes 22 and 23 with which it consists of two an upper surface configuration attaches the pars intermedia 20, the display attachment section 21, and each part of the above of L typeface. In addition, the path cord of the display section 10 and the loudspeaker section 7 is wired inside, and the attachment pipes 22 and 23 give the flexibility of about 60 degrees in the arrow X4 direction, and it is made to bear them moreover at a shock. Moreover, the attachment pipes 22 and 23 enable it to tune the length L2 and L3 of pars intermedia 20 and the display attachment section 21 to attach finely.

[0028] In drawing 4 , the loudspeaker section 7 consists of an outside case 24, an inner case 25, and loudspeaker covering 26. The outside case 24 and the inner case 25 are attached with a screw (not shown), the posterior part of the loudspeaker section 7 is constituted, and a communication device 6 is formed in the interior. The outside case 24 and the loudspeaker covering 26 are attached with a screw 27, and a loudspeaker 28 is formed in the interior. Between the outside [this] case 24 and the loudspeaker

covering 26, the rotation ring 18 (refer to drawing 5) of the microphone arm 9 is attached free [rotation]. A mount 29 is formed in the wall of the outside case 24, and the convex tie-down plate 30 is attached in the position of the axis of rotation P with a screw 31.

[0029] In drawing 3, the anterior part periphery 32 of the outside case 24 is formed on a curved surface, and an aperture 33 is formed in the operating range of the display arm 8 of this curved surface. The display arm 8 is attached in the tie-down plate 30 and mount 29 (refer to drawing 4) which were prepared in the interior of the loudspeaker section 7 through the aperture 33 free rotation of the rotation ring section 19 (refer to drawing 6). Under the present circumstances, inside an aperture 33, a concave 34 can be formed at a radial, and rotation of the display arm 8 can be held in arbitrary positions by attaching it in it, as the display arm 8 is forced on the aforementioned concave 34.

[0030] In addition, a spring may be attached in the screw 27 and screw 30 which were shown in drawing 4, and rotation of the display arm 8 and the microphone arm 9 may be controlled. Moreover, a slot 35 is formed in the periphery of the loudspeaker covering 26, and the ear pad 13 is attached in this slot 35.

[0031] Drawing 7 is drawing showing the appearance of the above-mentioned camera section 11. The camera section 11 forms two ribs 36 with the elasticity which equipped the interior with the zoom mechanism and the focal mechanism (not shown), and equipped the base section with the salient 135, and is attached in the display arm 8 free [attachment and detachment] on both sides of two attachment pipes 22 by this rib 36 and salient 135. According to this structure, as shown in drawing 3 and drawing 8, the camera optical axis Z1 and the display optical axis Z2 can be carried out in parallel.

[0032] Next, the mechanism of a head set 5 is explained in drawing 8. In this drawing, a head set 5 consists of a main part 28 of a band equipped with two bands 37, the loudspeaker anchoring section 40 attached in the both sides of this main part 28 of a band through the attachment pipe 39, and the head putt anchoring section 41. The loudspeaker anchoring section 40 and the head putt anchoring section 41 can lengthen the breadth L1 of a head set 5 by sliding the attachment pipe 39 to the length L4 twice [a maximum of] the length of the attachment pipe 39. By binding the attachment pipe 39 tight with a screw 16, it is fixed to arbitrary positions and the breadth L1 of a head set 5 is determined by this position. In addition, connection between the dc-battery section 15 and the loudspeaker section 7 is made in connection code 42 wired inside a head set 5.

[0033] Next, appearance structures other than the above shown in drawing 3 and drawing 8 - drawing 12 are explained. drawing 3 -- in front view and drawing 10, rear view and drawing 11 show the bottom plan view, and drawing 12 shows [a right lateral view and drawing 8 / a plan and drawing 9] the left lateral view

[0034] It is made to balance a weight with the display section 10 and the microphone section which are located ahead of the loudspeaker section 7 and the loudspeaker section 7 by jutting out a case over up back (the direction of about 45 degrees), and forming the loudspeaker section 7 in it, as shown in drawing 3. Moreover, the antenna 14 is attached in the direction of 45 back so that the electric wave from a microphone 12 may not influence a head and may not collide with a surrounding obstruction. 43 is an electric power switch, considers as transmission/reception standby state in the state of ON, and makes a idle state all the circuits of a carried type TV phone machine in the state of OFF.

[0035] In drawing 8, the display section 10 consists of a liquid crystal display panel 44, and the hood 45 and the back covering 46 which cover outdoor daylight, and is attached in the arrow X4 direction free [rotation] with the screw 47 at the display attachment section 21 (refer to drawing 6) of the display arm 8. The back covering 46 is making a point into a point bud configuration, and makes large the visual field of the eye (one eye) of the direction of not seeing the display section 10, as much as possible.

[0036] In the front view shown in drawing 9, to the loudspeaker section 7, the display section 10 inclines a little caudad, and is attached. Since this will be in the state where the loudspeaker section 7 inclined to the user side in order to make a main part 2 fit a user when a user's head is equipped with a main part 2, it is because it has amended so that the display section 10 may be in an erect state in this state. Moreover, the camera section 11 has also leaned and established the internal camera mechanism by the same reason.

[0037] It attaches, is attached free [attachment and detachment] through the section 48, and enables it to detach and attach the dc-battery section 15 by [which prepared in the head putt anchoring section 41] making it slide ahead, as shown in drawing 10. Moreover, the contact is attached in the anchoring section 48 and it enables it to connect, where the dc-battery section 15 is attached.

[0038] As shown in drawing 12, the head putt 114 does not become obstructive to a user's ear, but moreover, it is taken as the shape of a half-anchor ring so that a main part 2 can be held firmly.

[0039] Next, a control unit 4 is explained using drawing 13 (a) and (b). Drawing 13 (a) is the front view of a control unit 4, and drawing 13 (b) is a perspective diagram on the back.

[0040] In these drawings, the control unit 4 used the shape of an appearance as the thin form box, and has formed the clip 49 for equipping the pocket and belt of a breast in the tooth back. The transverse plane is equipped with transmission / receiving key 50, the end key 51, the ten key 52, the call / wide key 53 that is a zoom key which adjusts the photography scale factor of the camera section 11, and the screen change key 54. The screen change key 54 is for changing a scope to the picture photoed in the camera section 11, and a screen from a transmission place. It is made for a ten key 52 to achieve the function as a cursor key for the numerical keypad of 2, 4, 6, and 8 in a talk state here.

[0041] Next, an operating instruction is explained. First, a head set 5 is adjusted and a head is equipped with a main part 2. The control unit 4 is attached in the pocket of a belt or a breast through the clip 49 in the state where it does not talk over the telephone. In order to change into transmission / receiving state, the power supply key 43 (refer to drawing 3) prepared in the loudspeaker section 7 is operated first, and it sets to ON. When it comes to ON state, the carried type TV phone machine 1 will

be in transmission / reception standby state. A control unit 4 can be operated in this state, and transmission and reception can be performed.

[0042] In the case of reception, if an electric wave is received through an antenna 14 from the partner point, arrival-of-the-mail sound will occur from a loudspeaker 28. Next, by operation of pushing transmission / receiving key 50 of a control unit 4, the display section 10, the microphone section 12, and the camera section 11 will be in ON state, the screen from the partner point is displayed on the screen of the display section 10, the voice from the partner point can be heard from a loudspeaker 28, and their voice and image can be further transmitted to the partner point in the microphone section 12 and the camera section 11. When ending reception, it can consider as transmission / reception standby state by pushing the end key 51.

[0043] Moreover, when transmitting, first, it is operation of pushing transmission / receiving key 50 of a control unit 4, and the display section 10, the microphone section 12, and the camera section 11 set to ON. If the partner point telephone number is inputted with a ten key 52, since it will be displayed on the screen of the display section 10 in this state, it can check. Next, it can transmit to the partner point by pushing transmission / receiving key 50 again. When ending transmission, it can consider as transmission / reception standby state by pushing the end key 51.

[0044] Now, in this example, things are made to displaying cursor on the arbitrary positions of the screen of the display section 10 in a talk state. A ten key 52 can perform movement of cursor. Moreover, a call/WAIDO of the camera section 11 can also be operated by remote control through a call / wide key 53. Furthermore, since attachment and detachment of the camera section 11 are enabled, it can remove from a main part 2 and a narrow part (portion in the inner part of the place where a frontage is narrow) can also be photoed. Furthermore, the screen change key 54 can be operated, the picture and the picture from a transmission place which were photoed in the camera section 11 can be changed, and it can display on the display section 10. Furthermore, the display arm 8 and the microphone arm 9 can be rotated, and the display section 10 and the microphone section 12 can be contained to a user's head upper part. Therefore, the display section 10 and the microphone section 12 can be located ahead of a user's face only at the time of use. In addition, if a switch is formed in the rotation section of the display arm 8 and this switch is made into ON state, it is moved ahead of a user's face from the state contained by the head upper part, and you may make it an arm 8 be in the state where transmission / receiving key 50 was pushed again, and the same state.

[0045] Drawing 14 is the perspective diagram having shown other examples of the carried type TV phone machine concerning this invention. In addition, the same thing as the part and arrow which were shown by drawing 1 - drawing 13 is shown with the same sign, and explanation is omitted.

[0046] In drawing 14, a carried type TV phone machine (a sign 55 shows in the gross) consists of control units 60 connected with the head main part 56 attached in a user's head, the transmitter main part 58 connected with the aforementioned head main part 56 through a code 57, and the aforementioned head main part 56 through a code 59.

[0047] The head main part 56 is held by the head set 61 at a user's head, and the loudspeaker section 62 and the head pad 14 are attached in the both sides. A head set 61 is equipped with the main part 28 of a band equipped with two bands 37, the loudspeaker anchoring section 63 attached in the both sides of this main part 28 of a band through the attachment pipe 39, and the pad anchoring section 64, and is constituted.

[0048] Structure of each part of a head set 61 is made into the same structure as drawing 8, and the breadth of a head set 61 can be adjusted by adjusting a screw 16. The loudspeaker section 62 is attached free [rotation] through the hinge region (although not illustrated, it considers as the same structure as hinge region 40a shown in drawing 10) prepared in the soffit section of the loudspeaker anchoring section 63. The loudspeaker section 62 is carrying out the disk configuration of a thin form, the ear pad 13 is attached inside, and the loudspeaker 28 is formed in the interior. Moreover, the display arm 8 and the microphone arm 9 are attached in the loudspeaker section 62 free [rotation], a display 10 and the camera section 11 are attached in the display arm 8, and the microphone section 12 is attached at the nose of cam of the microphone arm 9.

[0049] The transmitter main part 58 consists of a belt 65 for equipping the body, the communications department 66 attached in this belt 65, and the dc-battery section 67 attached in this communications department 66 free [attachment and detachment]. The antenna 14 and the power supply key 43 are prepared for the communications department 66. In addition, it is good also considering a belt 65 as a shoulder belt.

[0050] The control unit 60 is made into the disk configuration of a thin form, formed transmission / receiving key 50 and the end key 51 in the center, and has formed the ten key 52, the call / wide key 53, and the screen change key 54 in the circumference. Moreover, the clip 49 is formed in the tooth back.

[0051] Here, codes 57 and 59 have connected the loudspeaker section 62, the communications department 66, and the control unit 60. In addition, you may connect with the communications department 66 and the cordless connection through infrared radiation is sufficient as a control unit 60 further. / 8

[0052] In this example, a user's head can be equipped with the head main part 56, and other bodies of a user, for example, the lumbar part, can be equipped with the transmitter main part 58 through a belt 65. Moreover, a control unit 60 can be attached in a belt 65, a chest pocket, etc. through a clip. Moreover, in this example, since it dissociated from the head main part 56 and the communications department 66 and the dc-battery section 67 are formed, while the weight concerning a head is mitigable, even if the communications department 66 and the BATTE section 67 turn on a large scale, trouble is not caused on the occasion of use. Furthermore, since it is prepared in the position where the antenna 14 separated from the head, the electromagnetic interference to a head can be prevented.

[0053] According to the example described above, by having the body anchoring means of head sets 5 (the 1st example) and 61 (the 2nd example) or belt 65 grade, since it is not necessary to have a carried type TV phone machine in a hand, trouble is not caused to a user's action. Here, a helmet or a shoulder belt is sufficient as a body anchoring means. Especially, a body anchoring

means can be made into head maintenance meanses, such as a head set and a helmet, and both hands can be freely used by attaching the loudspeaker sections 7 (the 1st example) and 62 (the 2nd example), the display section 10, the camera section 11, and the microphone section 12 in this head maintenance means. In this case, the weight burden of a head is mitigable by attaching a communication device 6 and the dc-battery section 67 in the body with a belt 65 or a shoulder belt.

[0054] Furthermore, it can be operated by forming the control units 4 and 60 connected through connecting means, such as a code 3 and infrared radiation, in another object, with a head equipped. Furthermore, since the ear and eye of one side can already be opened by considering the display section 10 and the loudspeaker sections 7 and 62 as single-sided correspondence, since a user can know the information on personal appearance and can perceive risk quickly, he can raise the safety at the time of use. Furthermore, while a user can adjust the position of each part in the optimal state (user-friendly state) by attaching the camera section 11 and the microphone section 12 in the loudspeaker sections 7 and 62 free [rotation] through arms 8 and 9, when unnecessary, it can contain up (when not using it).

[0055] Moreover, since the optical axis Z1 is formed in the position which is concurrent with the optical axis Z2 of the display section 10 and the camera section 11 can make in agreement a user's eye line and the optical axis Z1 of the camera section 11, it can transmit the picture suitable for a user's eye line. Under the present circumstances, a photograph can be taken, without making a user take an unnatural posture, if attachment and detachment of the camera section 11 are enabled. Moreover, weight balance at the time of wearing of the carried type TV phone machine 1 can be made good by forming a communication device 6 behind the loudspeaker section 7, and forming the dc-battery section 15 in the head set 5 by the side of the ear of the loudspeaker section 7 and another side which counters.

[0056] Thus, in the carried type TV phone machine concerning this invention, it can receive, working information (voice and image), such as directions from a remote station etc., and the situation here can be communicated on real time with an image and voice. It is effective to search information in the place which cannot carry the work by the outdoors or **** which must use both hands especially, and a lot of information.

[0057] For example, in the following situation, the carried type TV phone machine concerning this invention can be used effectively.

[0058] (1) In drawing 15 for firemen, when Fireman A performs fire fighting and rescue operations, it is important that information interchange with the headquarters B in a remote place is smoothly performed from the place which performs these work activities. In the activity which trespasses upon the building which has a skyscraper and complicated structure especially, Fireman A needs to need to offer the information about the internal structure of a building, and Headquarters B needs to grasp the situation that Fireman A has set. In addition, Fireman A has to work with fire hose or a wrecking equipment in both hands.

[0059] The situation of the circumference in which Fireman A is can be transmitted to Headquarters B with an image and voice by making this fireman A equip the carried type TV phone machine 1 concerning this invention. And since the carried type TV phone machine 1 is attached in the head, there is no trouble in work with both hands. Furthermore, since the camera section 11 is in agreement with the direction of Fireman's A face, an angle can be changed only by moving a neck. Furthermore, since, as for Fireman A, the eye and ear of one side are wide opened from the carried type TV phone machine 1, he can also know a surrounding situation. Moreover, Fireman A can receive directions from Headquarters B through voice and an image. Especially the fireman A can receive with an image the information C searched in Headquarters B by the display screen 44 of the display section 10 (engineering drawing of a building, position of a hydrant, etc.). Drawing 15 showed an example of Fireman's A activity situation, and since the fireman A who invaded in the building is closed by smoke in the way, it has just been going to receive Information C from Headquarters B.

[0060] (2) In performing the repair or the cure against accident in wiring and piping of the building of the aircraft for maintenance and accident processing, and a skyscraper, or the water service and the electrical and electric equipment, it needs a lot of manual and engineering drawing. It is difficult to search a required portion out of a lot of such manuals or engineering drawings, and to perform repair on the spot.

[0061] In such a situation, by making a repair operator equip the carried type TV phone machine concerning this invention, a telephone call partner can search information and can transmit only required information to an operator with an image and voice. On the other hand, a repair operator can photo a locating fault in the camera section, working, and can transmit the situation to a telephone call partner with an image and voice. Under the present circumstances, depending on the need, the image in the camera section is displayed on the display section using a control unit, it points to a locating fault with cursor, and a telephone call partner can also be consulted with. Furthermore, when it is in the inner part of the place where a locating fault is narrow, the camera section can be removed and this locating fault can also be photoed.

[0062] (3) It can be used for the television relay which requires the cooperation play in real time, for example, marathon relay, with two or more carried type TV phone opportunities concerning this invention for television relay which requires the cooperation play in real time, and the relay car which gives this directions. In this case, the operator putting on the carried type TV phone machine is first stationed in the proper place of a course. Each operator takes a photograph, displaying on the display section the image photoed in the camera section, and transmits information (an image and voice) to a relay car. A relay car points to timing, such as a photography cut and a zoom rise, to each operator, changes each operator's image, is made to coalesce in the voice of relay broadcast, is edited into television broadcasting, and is transmitted to a broadcasting station. As occasion demands, you may also incorporate each operator's voice. Moreover, a relay car transmits the information under broadcast (an image and voice) to the operator who is not broadcasting now. By this, since each operator is [prior] ready even if he can know the present broadcast situation and there are no directions from a relay car, he can perform a cooperation play smoothly. Moreover, users enable it to perform each other information (image and voice) exchange depending on the need.

[0063] (4) the image which photoed the site in the camera section in coverage sites, such as a newspaper reporter press conference and a scoop, -- in addition, make it transmit the voice which read the direct manuscript aloud in the microphone section to a newspaper publishing company In this case, while preparing the memory section in a carried type TV phone machine, the steel picture photoed in the highly precise camera section is once memorized in memory, and you may make it transmit to a newspaper publishing company after that by using a camera highly precise as the camera section.

[0064]

[Effect of the Invention] According to this invention, required information (voice and image) can come to hand, working, since it is not necessary to have a carried type TV phone machine in a hand without causing trouble to a user's action, and the situation here can be communicated on real time by the image and voice.

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

TECHNICAL FIELD

[Industrial Application] this invention relates to a carried type TV phone machine, especially, is equipped with the anchoring means to a user's body, and relates to the carried type TV phone machine which can be used while a user does other work.

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

PRIOR ART

[Description of the Prior Art] Conventionally, as a carried type TV phone machine, there is technology shown in JP,3-123152,A, for example. In this technology, the telephone book soma equipped with the earphone and the push button and the cover section equipped with the flat panel type display were prepared, it is small and telephone with the pocket possibility of and television which moreover has various functions nature is proposed.

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

EFFECT OF THE INVENTION

[Effect of the Invention] According to this invention, required information (voice and image) can come to hand, working, since it is not necessary to have a carried type TV phone machine in a hand without causing trouble to a user's action, and the situation here can be communicated on real time by the image and voice.

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] According to the above-mentioned Prior art, at the time of carrying, the cover section is closed, it can carry and, in addition to a TV phone function, television inspection can be performed by conveyance and having an antenna at the time of use.

[0004] However, in this conventional example, at the time of carrying, the cover section is closed, and conveyance and when carrying and using it in a going-out place or the outdoors, you have to open and use the cover section one by one. Moreover, the above-mentioned conventional example had to place the main part of telephone on the table, the knee, etc. in use on the assumption that the use in a table. Furthermore, at the time of carrying, you have to convey and carry by hand (one hand or both hands). For this reason, a TV phone machine cannot be conveyed and carried, performing other handicrafts which must use both hands. Moreover, it cannot be used, walking.

[0005] this invention aims at offering the carried type TV phone machine which can accomplish in order to solve the above-mentioned technical problem, can receive required information (information with voice and an image) while a user works, and can communicate the situation around a user or the image of a user's face, and voice on real time.

[Translation done.]

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

MEANS

[Means for Solving the Problem] In this invention, in order to attain the aforementioned purpose, in the TV phone machine equipped with the loudspeaker section, the display section, the camera section, the microphone section, and the communication device, it has a wearing means to the body and things are made.

[0007] Furthermore, it has the head wearing sections, such as a head set and a helmet, as a wearing means to the body, and the loudspeaker section, the display section, the camera section, the microphone section, and a communication device can be attached in this head wearing section.

[0008] Or the wearing means to the body can consist of the head wearing section and the wearing section to other bodies, such as a waist belt and a shoulder belt, can equip the head wearing section with the loudspeaker section, the display section, the camera section, and the microphone section, and can also equip other wearing sections with a communication device.

[0009] Furthermore, it can connect with the aforementioned wearing section through connecting means, such as a connection code and infrared radiation, and the aforementioned wearing section can also prepare the control unit equipped with the ten key, transmission/receiving key, and the end key in another object. The loudspeaker section is attached in one ear in the head wearing section, and the display section, the microphone section, and the camera section corresponding to one eye can also be attached in the loudspeaker section free [rotation] through an arm. Furthermore, the camera section can also be attached in the position where the optical axis of the camera section is concurrent with the optical axis of the display section free [attachment and detachment]. Moreover, a communication device can be prepared behind the loudspeaker section and the bar TERI section can also be prepared in the loudspeaker section and the applied part by the side of the ear of another side which counters.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The perspective diagram showing one example of the carried type TV phone machine concerning this invention.

[Drawing 2] The busy condition view showing one example of the carried type TV phone machine concerning this invention.

[Drawing 3] The right lateral view showing one example of the carried type TV phone machine concerning this invention.

[Drawing 4] The A-A' cross section of drawing 3 .

[Drawing 5] Part drawing of a microphone arm.

[Drawing 6] Part drawing of a display arm.

[Drawing 7] The external view of the camera section.

[Drawing 8] The plan showing one example of the carried type TV phone machine concerning this invention.

[Drawing 9] Front view showing one example of the carried type TV phone machine concerning this invention.

[Drawing 10] Rear view showing one example of the carried type TV phone machine concerning this invention.

[Drawing 11] The bottom plan view showing one example of the carried type TV phone machine concerning this invention.

[Drawing 12] The left lateral view showing one example of the carried type TV phone machine concerning this invention.

[Drawing 13] The external view of a control unit.

[Drawing 14] The perspective diagram showing other examples of the carried type TV phone machine concerning this invention.

[Drawing 15] The busy condition view of the carried type TV phone machine concerning this invention.

[Description of Notations]

1 [-- A control unit, 5 / -- A head set, 6 / -- A communication device, 7 / -- The loudspeaker section, 8 / -- A display arm, 9 / -- A microphone arm, 10 / -- The display section, 11 / -- The camera section, 12 / -- The microphone section, 13 / -- Ear putt, 14 / -- An antenna, 15 / -- The dc-battery section, 114 / -- Head putt.] -- A carried type TV phone machine, 2 -- main part, 3 -- A

[Translation done.]

NOTICES

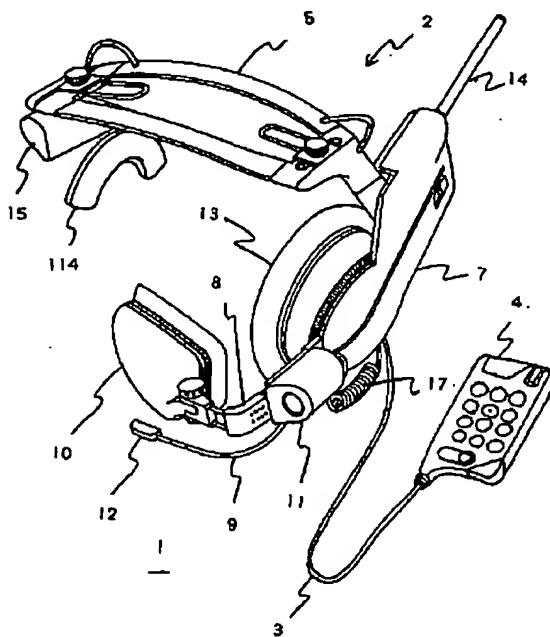
Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DRAWINGS

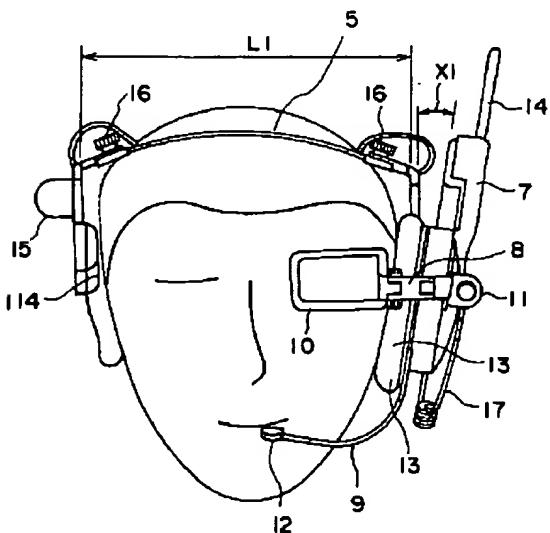
[Drawing 1]

図 1



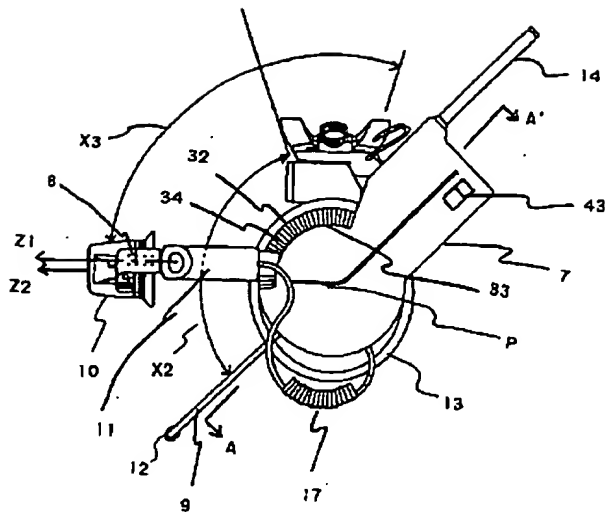
[Drawing 2]

図 2



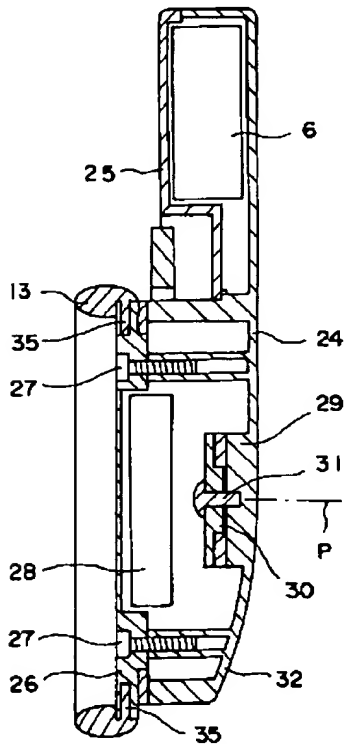
[Drawing 3]

図3



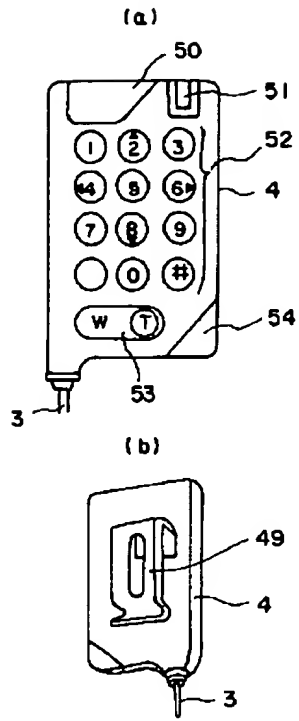
[Drawing 4]

図 4



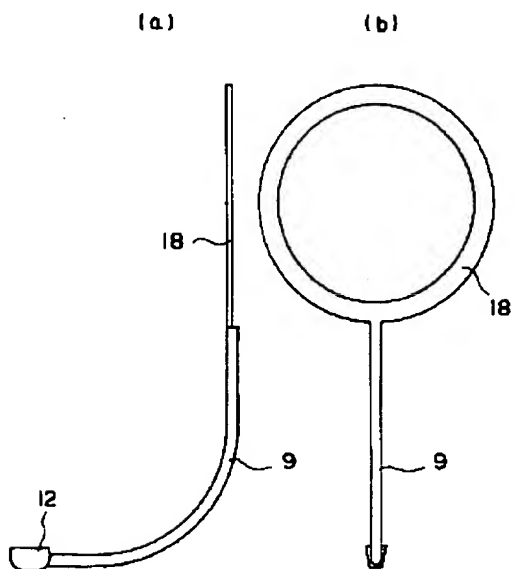
[Drawing 13]

図 13



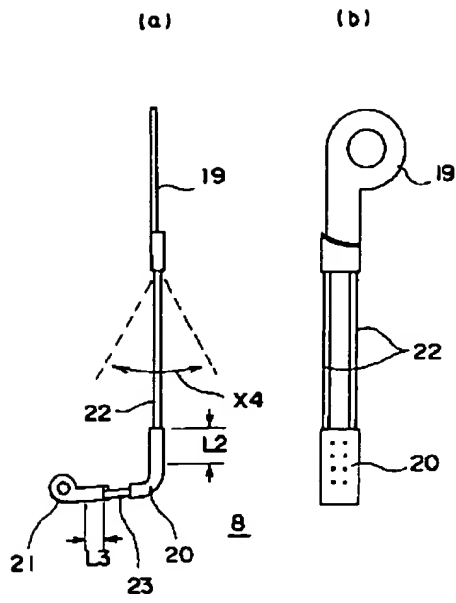
[Drawing 5]

図 5



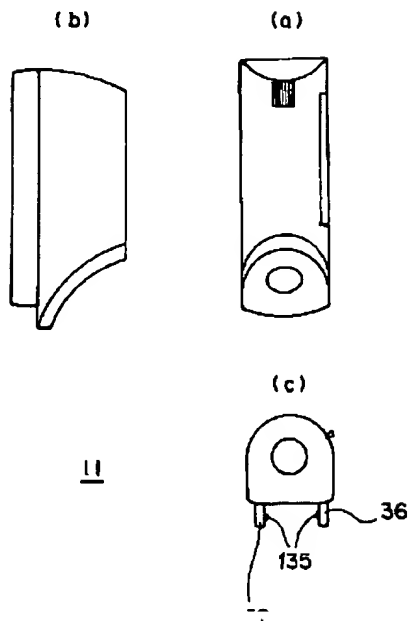
[Drawing 6]

図 6



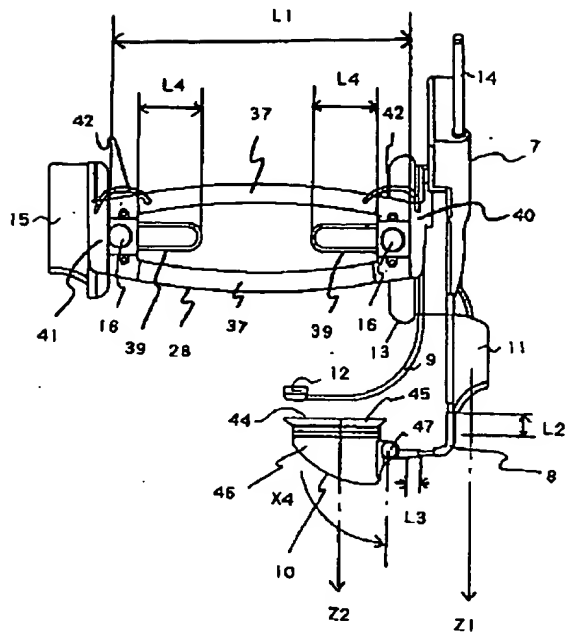
[Drawing 7]

図 7



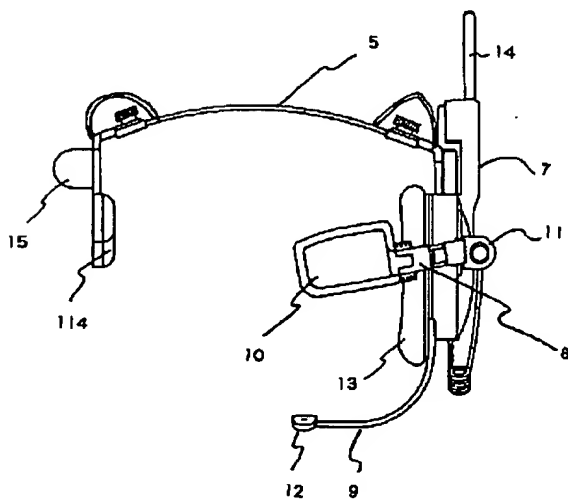
[Drawing 8]

図8



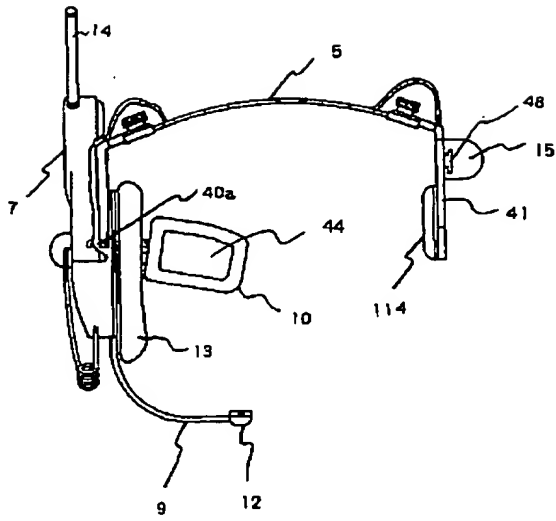
[Drawing 9]

図9



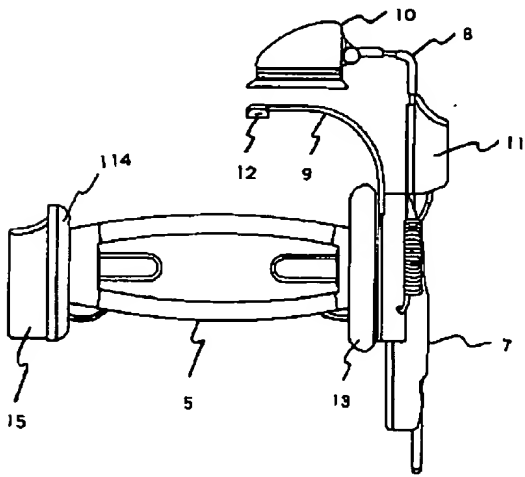
[Drawing 10]

図10



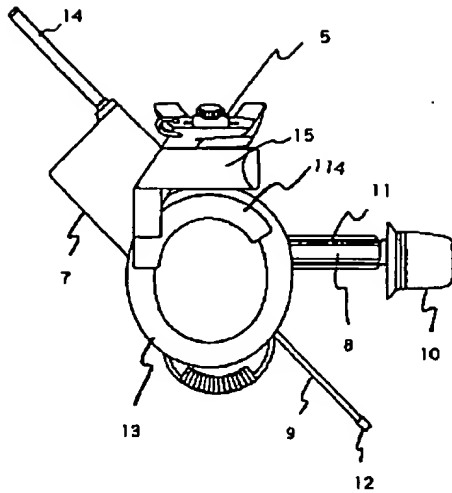
[Drawing 11]

図11



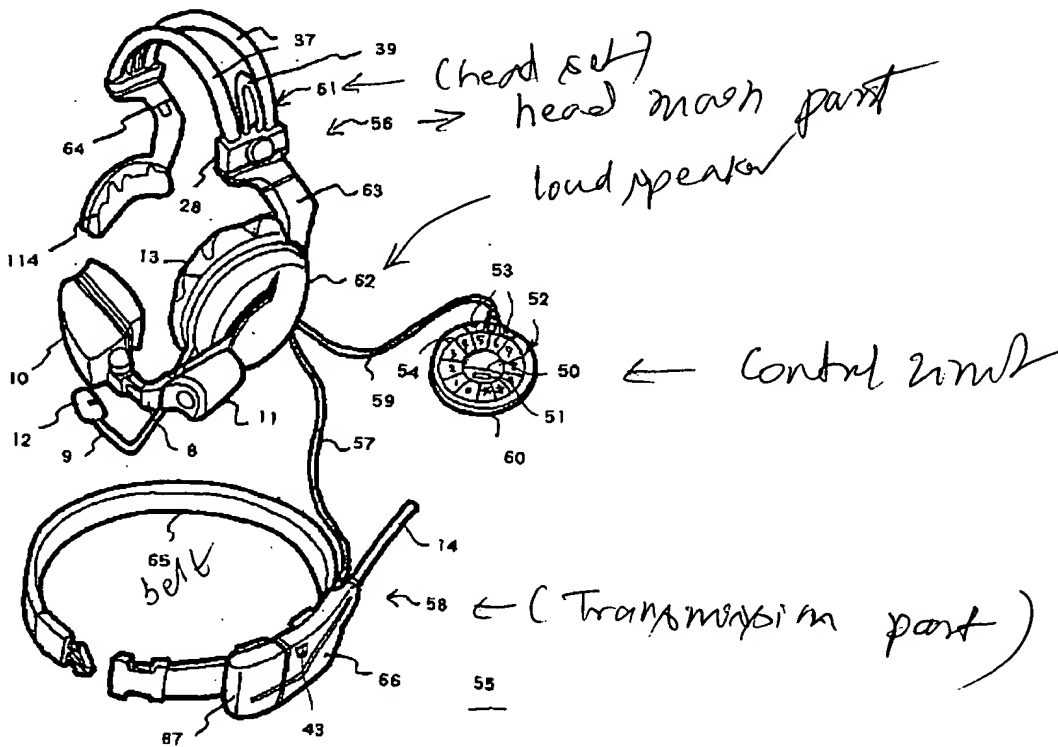
[Drawing 12]

図12



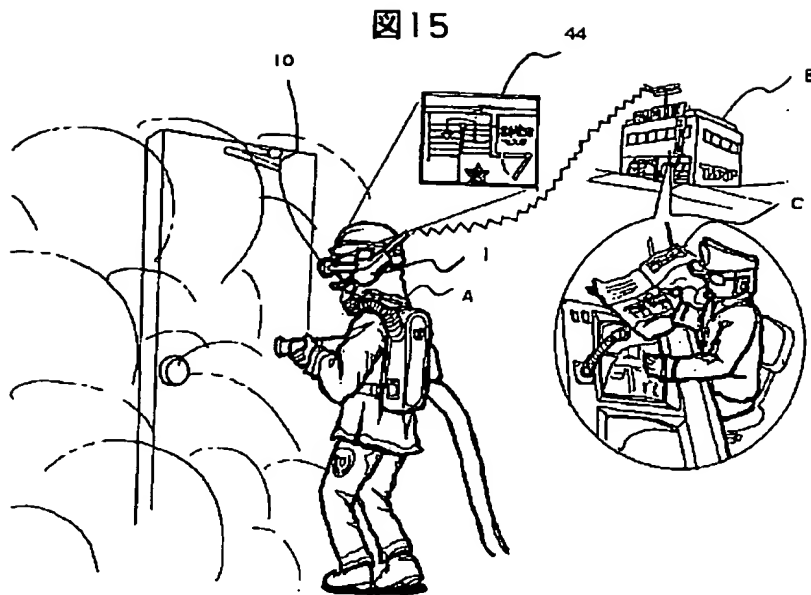
[Drawing 14]

図14



[Drawing 15]

8: display arm
9: microphone



[Translation done.]